



Andy Beshear  
GOVERNOR


## TRANSPORTATION CABINET

200 Mero Street  
Frankfort, Kentucky 406 01

Jim Gray  
SECRETARY

### MEMORANDUM

TO: All Potential Bidders

FROM: Rachel Mills, P.E.   
Director  
Division of Construction Procurement

DATE: January 9, 2026

SUBJECT: Class A+ (Modified) Polish-Resistant Aggregate and Mixture Guidelines

The Cabinet is releasing the Class A+ (Modified) Polish-Resistant Aggregate and Standard Mix Design Approval Guidelines. The modified designation guidelines will take effect with the **February 2026 letting**. Special Notes are attached, and the List of Approved Materials has been updated with a Class A+ (modified) Aggregate Source List and Guidelines section. Like all approved sources, these aggregates sources may be updated based on physical and chemical properties as well as friction performance. The approved list does not guarantee the quality or available quantity of aggregates.

#### Significant Changes:

- Class A+ (modified) aggregate classification requires all quality requirements of existing Class A **and** a minimum acid insoluble residue content of 40 percent as determined by Kentucky Method 64-265
- Mix design approvals for 0.38-in.-nominal and 0.50-in.-nominal Class A+ (Modified) mixtures requires a minimum dynamic friction test value of 0.42 on an average of two slabs.

For the February letting, the Cabinet is introducing this product in various contracts as A+ or A "Modified" thinlay or microsurfacing mixes. Specific project information is provided below:

<b>County</b>	<b>Route</b>	<b>Beginning Milepoint</b>	<b>Ending Milepoint</b>
Hardin	I-65	96.7	97.4
Oldham	US 42	0.44	3.6
Fayette	US 421	4.035	8.166
Montgomery	US 60	1.733	3.496
Powell	KY 82	0	2.009

Attachments: A Modified Polish-Resistant Aggregate Requirements

Special Note for Microsurfacing with Modified A Aggregate

Class A+ (Modified) Polish-Resistant Sources

Special Note for No.4 Asphalt Mix (Thinlay) with Modified A Aggregate

## **A Modified Polish-Resistant Aggregate Requirements**

Class A Modified polish-resistant aggregate shall meet the following:

- Meet all specifications for polish-resistant aggregate as specified in Sections 804 and 805 of the Kentucky Standard Specifications for Road and Bridge Construction.
- Maintain a minimum acid insoluble residue content of 40% according to KM64-265.

Class A modified mixtures shall meet a minimum DFT performance standard for mixture approval as specified below.

- Fabricate two slabs per design
- Polish each slab according to the current KYTC special note (i.e. 5000, 25000, 75000, & 150,000)
- Average of two DFT devices on each slab must meet a minimum friction coefficient of 0.42 after 150,000 3 Wheel Polisher cycles
- Total combined aggregate mixture shall be at minimum 70 percent polish-resistant. The polish-resistant portion may be a blend of class A modified and Class A polish-resistant aggregates sufficient to meet DFT performance standard.

All material testing for approval and acceptance shall be completed by the Division of Materials.

## SPECIAL NOTE FOR MICROSURFACING with MODIFIED A AGGREGATE

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### 1. DESCRIPTION

This work consists of constructing a cold-laid, polymer-modified, emulsified asphalt pavement course to fill ruts or provide an intermediate or surface course for existing pavements. The paving mixture is composed of a polymer-modified emulsified asphalt, crushed aggregate, mineral filler, water, and possibly other additives. Follow the requirements outlined in ASTM D 6372, Standard Practice for Design, Testing, and Construction of microsurfacing, with modifications as found in this note. Apply this material according to the lines, grades, and typical cross-sections in the plans or as established by the Engineer.

Unless otherwise noted, Section references herein are to the Department's Standard Specifications for Road and Bridge Construction, current edition. All applicable portions of the Department's Standard Specifications apply unless specifically modified herein.

### 2. MATERIALS AND EQUIPMENT

**2.1 Mineral Filler.** Use Portland Cement, Type I, conforming to Section 801.

**2.2 Aggregate.** Provide 100-percent crushed aggregate conforming to Sections 804 and 805. Contrary to Subsection 403.03.03, provide polish-resistant aggregate in the asphalt mixture conforming to the following requirements:

#### **Microsurfacing-Surface Course – Type A (Modified)**

- An aggregate blend of 50 percent aggregate that meets all of the Class A (Modified) aggregate criteria and 50 percent Class A polish-resistant aggregate.

#### **Class A (Modified) Aggregate Criteria**

- A minimum of 40% acid insolubility (KM 64-265)
- Approval by materials division

#### **Microsurfacing-Surface Course – Type A**

- 100 percent of total combined aggregate is Class A polish-resistant aggregate.

#### **Microsurfacing-Surface Course – Type B**

- 100 percent of total combined aggregate is Class B or Class A polish-resistant aggregate.

#### **Microsurfacing-Surface Course – Type D**

- No additional polish-resistant aggregate requirements.

Contrary to ASTM D 6372, test sand equivalent according to AASHTO T 176, soundness according to Kentucky Method (KM) 64-610, and a maximum LA abrasion resistance of 35 percent when tested according to AASHTO T 96. Ensure all aggregates satisfy ASTM D 6372 for sand equivalent, soundness, and LA abrasion listed above.

Do not use mineral aggregates that are inherently porous, such as blast-furnace slag, expanded shale, porous limestone, and lightweight aggregates, in this mixture.

**2.3 Water.** Conform to Section 803.

**2.4 Emulsified Asphalt.** The polymer-modified emulsion will be a CQS-1hP or a CQS-1hL latex-modified emulsion conforming to AASHTO M 208 and tested according to T59. Distill sample at 350 °F. In addition, ensure that the emulsified asphalt conforms to the following criteria:

<u>Test</u>	<u>Criteria</u>
Ductility at 77 °F (AASHTO T 51)	40 cm (min)

Ensure the asphalt supplied can be found on the List of Approved Materials.

**2.5 Equipment.** All equipment necessary for the satisfactory performance of the work shall be on hand and approved before the work is permitted to begin. All equipment, tools, and machines used in the performance of this work shall be maintained in satisfactory working condition.

All trucks shall be covered immediately after loading with a cover of canvas or other suitable material. The cover shall lap down along the sides and rear of the truck bed a minimum of 6 in. and be secured by tie downs at a maximum of 5 ft. spacing along the sides and rear of the truck bed. All trucks must be equipped to meet the above requirements prior to commencing hauling operations.

**2.6 Mixing Equipment.** Produce the mixture in a self-propelled, front-feed, continuous-loading machine equipped with a conveyer-belt aggregate-delivery system and an interconnected, positive-displacement, water-jacketed gear pump and/or a variable displacement computerized rate control pump, to accurately proportion the aggregate and asphalt emulsion. Locate the mineral filler feed so the proper amount of mineral filler is dropped on the aggregate before discharge into the pug mill. Provide a spray bar to completely pre-wet the aggregate dropping down to the pug mill with additive and water before the introduction of the asphalt emulsion. Provide a twin-shaft, continuous-flow, multi-blade pug mill that is a minimum of 49 in. long. Ensure that the blade size and side clearances meet the equipment manufacturer's recommendations. Introduce the emulsion within the first one-third of the mixer length to ensure proper mixing of all materials before exiting the pug mill.

Equip the machine with opposite-side driving stations to allow full control of the machine from either side. Equip the mixer with a remote, forward-speed control at the rear mixing platform so the rear operator can control the forward speed and level of mixture in the paving or rut box. Provide material control devices that are readily accessible and positioned so the amount of each material used can be determined at any time.

Equip the mixing machine with a water pressure system and nozzle-type spray bar to provide a water spray ahead of and outside the spreader box when required. Apply water at a rate that will dampen the surface but not create free-flowing water ahead of the spreader box.

The mixer shall be equipped with a computerized material monitoring system with integrated material control devices that are readily accessible and positioned so the amount of each material used can be determined at any time. The mixer shall be equipped with a back-up electronic materials counter that is capable of recording running count totals for each material being monitored. The mixer shall include an attached radar ground measuring device or comparable device. Each material control device shall be calibrated prior to each mix application and at the discretion of the Engineer. The computer system shall have the capability to record, display, and print the following information:

- Individual sensor counts for emulsion, aggregate, cement, water, and additive
- Aggregate, emulsion, and cement output in pounds per minute
- Ground travel distance
- Spread rate in pounds per square yard
- Percentages of emulsion, cement, water, and additive
- Cumulative totals of aggregate, emulsion, cement, water, and additive
- Scale factor for all materials

The computer system shall be functional at the beginning of work, and throughout the entire work operation.

**2.7 Aggregate Equipment.** In an effort to eliminate oversize materials in the finished mat, aggregate shall be screened directly into the trucks. The inspector shall view the screen for oversized aggregate and if it is found to have gaps, it shall be replaced or repaired before continuing to place the material.

**2.8 Spreading Equipment.** If a leveling or surface course is specified, apply the mixture uniformly by means of a conventional spreader box.

If a rut-fill course is specified, apply the mixture with a 5-6ft width, "V-shaped" rut-filling spreader box. Equip the rut-filling spreader box with a steel strike-off device.

Attach either type of spreader box to the mixer and equip it with augers mounted on an adjustable shaft to continually agitate and distribute the materials throughout the box. Ensure that the equipment provides sufficient turbulence to prevent the mix from setting in the box or causing excessive build-up or lumps. To prevent loss of the mixture from the box, attach flexible seals, front and rear, in contact with the road. Operate the spreading equipment in such a manner as to prevent the loss of the mixture on super-elevated curves.

For surface courses, attach a secondary strike-off device to the spreader. Use neoprene rubber drags to obtain the desired finish. Replace drags having excessive buildup. Do NOT use burlap drags.

**2.9 Asphalt Distributor.** For the application of the emulsion shall have full circulation spray bar that is adjustable to at least 12 feet wide in 2 feet increments and capable of heating and circulating the emulsion simultaneously, conforming to **Section 406.02.05**. It must have computerized rate control for adjusting and controlling the application from the cab within 0.01 gallons per square yard increments. The distributor shall also be equipped with a volume measuring device and a thermometer for measuring the emulsion temperature in the tank. For each emulsion application, follow manufactures recommendations for proper nozzle type and adjustment.

**2.10 Calibration Equipment.** Supply all of the equipment, materials, and certified scales necessary to perform the calibration according to Section 3.5 of this note.

### 3. CONSTRUCTION

**3.1 Preparation and Proportioning of Mixture.** Submit a complete mix design to the Division of Construction and to the Division of Materials, Asphalt Branch and Aggregate Section. Mix design shall be prepared by an approved laboratory, to verify the compatibility of the aggregate, asphalt emulsion, mineral filler, and other additives. Perform the mix design with the same materials that will be used on the project. Ensure that the aggregate that is used in the mix design is listed on the Division of Materials *List of Approved Materials (LAM)* for the type of microsurfacing that is being designed.

Ensure the mix design has a residual asphalt content, by dry weight of aggregate, of 7.0 to 8.5 percent for leveling and surface courses and 6.5 to 8.0 percent for rut-filling mixes. Also ensure the mixture contains no reclaimed materials and a mineral filler content between 0.25 and 2.0 percent by dry weight of aggregate.

In addition to the mix design information required by KM 64-421, provide the following (all percentages are based on the dry weight of aggregate):

- minimum and maximum percentage of water; and
- percentage of mix-set additives, if required.
- county and contract listed

Provide test results from an accredited laboratory that conform to ASTM D 6372.

Submit the mix design and two full 5-gallon buckets of the aggregate blend for the mixture to the Division of Materials for verification according to Subsection 402.03 a minimum of four weeks prior to initial use for testing and approval.

When requested by the Engineer, the Contractor shall calculate the % asphalt content of the mixture from the equipment computer display readings. If no request is made by the Engineer, the Contractor shall calculate the % asphalt content of the mixture from the equipment computer display readings randomly, a minimum of 3 times a day. The quality control tolerances from the mix design is  $\pm 0.5\%$ .

- 3.2 Mixture Gradation.** When performing a single microsurface application, conform to the Type II requirements that are listed in Table 1 for surface and leveling courses. When performing a double microsurface application, conform to the Type III requirements that are listed in Table 2 for leveling and rut-fill courses.
- 3.3 Weather and Seasonal Limitations.** In addition to the applicable requirements in ASTM D 6372, apply the mixture only when rain is not imminent and the existing pavement surface temperature is at least 50 °F. The ambient temperature shall be at least 50°F and rising and no forecasted temperatures shall be below 40°F within a 24-hour period after placement. Do not place the material between September 30 and May 15.
- 3.4 Surface Preparation.** All surfaces intended for application shall be thoroughly cleaned of all vegetation, loose material, dirt, or other objectionable material immediately before application of emulsion using a mechanical sweeper and wire hand brooms.

Remove pavement markers at least 24 hours in advance of paving operation and fill the areas with microsurface material, asphalt material, or other approved material meeting the engineer's specifications. Remove any loose crack sealing material in advance of paving operation.

Remove existing thermoplastic and/or excessive paint markings prior to application.

Contrary to Section 406, apply an approved tack coat material diluted to 2 to 1 at rate of 0.03 to 0.06 gal/yd<sup>2</sup>. Application rate shall be adjusted based on the surface texture and/or porosity. Do not apply tack coat on top of a rut fill or leveling course prior to placing surface course. For a double microsurface treatment, do not apply a tack coat between the first and second application. Apply tack coat only to surfaces that will be covered by the application in the same day. The tack coat material shall be a polymer-modified emulsion CQS-1HP or CSS-1H emulsion.

- 3.5 Calibration.** Before mix production, calibrate the mixing equipment in the presence of the Engineer. Generate documentation for the Engineer, including individual calibrations of each material at various settings. Perform a new calibration if there is any change in the mix design. Following calibration and adjustments for changes in the mix design, do not make any further calibration adjustments to the mixing equipment without the Engineer's approval.
- 3.6 Application.** Apply the paving mixture in a manner to fill minor surface irregularities and achieve a uniform surface without causing streaking, drag marks, skips, lumps, or tears. Carry a sufficient amount of material in the spreader box at all times to ensure complete and uniform coverage. Avoid overloading the spreader box. Do not allow lumping, balling, or unmixed aggregate in the spreader box.

If a rut-fill course is specified, apply enough material to fill the wheel paths without excess crowning (overfilling). An excess crown is defined as 1/8 in. after 24 h of traffic compaction. Apply rut-fill courses in widths from 5 to 6 ft for each wheel path. If rut depth exceeds 1.0 inches, apply rut fill course in multiple layers. Provide a smooth, neat seam where two rut-fill

passes meet. Restore the design profile of the pavement cross-section. Feather the edges of the rut-fill course to minimize the use of excess material. Rut fill course shall not exhibit drag marks or tears greater than 1 inch in width, ½ inch in depth and greater than 12 inches in length. Rut fill course shall not exhibit excessive flushing or excessive roughness.

If a leveling course is specified, ensure the material covers the entire surface area. The leveling course may exhibit minor raveling upon opening to traffic but shall not exhibit any continued raveling after the first four hours to traffic. Leveling course shall not exhibit drag marks or tears greater than ½ inch wide, ¼ inch in depth and greater than 12 inches in length. Leveling course shall not exhibit flushing or excessive roughness.

If a leveling course is specified for a double layer of microsurfacing, utilize a type III aggregate and apply the paving mixture at a minimum dry aggregate rate of 18 lb/yd<sup>2</sup>. If a type II mixture is specified to be use as minor leveling, apply the paving mixture at a minimum dry aggregate rate of 14 lb/yd<sup>2</sup>. If a surface course is specified over a leveling course for a double layer, utilize a type II aggregate and apply the paving mixture at a minimum dry aggregate rate of 18 lb/yd<sup>2</sup>. If a single layer surface course is specified, utilize a type II aggregate and apply the paving mixture at a dry aggregate rate of 24 lb/yd<sup>2</sup>. For leveling course provide an even layer creating a neat center seam with no overlap where two passes meet. For surface courses, provide a smooth, neat center seam with a maximum overlap of 2 inches where two passes meet.

Construct surface courses wide enough to cover the outside edges of rut-fill and leveling courses. Maintain straight edge lines along curbs and shoulders. Do not allow runoff in these areas. Ensure that lines at the intersections are straight. Immediately remove excess material from the ends of each run.

Use squeegees and lutes to spread the mixture in areas inaccessible to the spreader box and areas requiring hand-spreading. With the Engineer's approval, adjust the mix-set additive to provide a slower setting time if hand-spreading is needed. Do not adjust the water content. If hand-spreading, pour the mixture in a small windrow along one edge of the surface to be covered, and spread it uniformly by a hand squeegee or lute. Do not over spray the mixture with water by the use of a hose or other equipment.

Ensure the material cures at a rate that will permit traffic on the pavement within one hour of placement or time specified by the engineer.

If the final surface is not uniform in texture, free from streaks, drag marks, lumps, or tears, stop applying mixture and correct the problem. Do not resume work until the engineer is satisfied the problem has been corrected. If surface correction is necessary, due to traffic, rain, or other causes during construction of the project, repair areas of the surface.

If excessive flushing or bleeding occurs within 30 to 60 days after the treatment is applied, corrective work will be required at the contractor's expense.

- 3.7 Crossovers and Intersections.** Prior to allowing traffic, the contractor shall broadcast microsurfacing sand or other approved material as directed by the engineer over turnouts, intersections, and/or crossovers as the microsurface material cures. Once the microsurfacing material has properly cured, sweep all loose sand and debris from the intersection/crossover and properly dispose of the material. Contractor shall repair any damaged areas prior to project completion.
- 3.8 Curb and Gutter/Sidewalk Ramps.** When applying microsurface mixture to curb and gutter/sidewalk ramp areas, ensure the final surface is flush with the edge of the gutter pan and/or ramp. The final surface shall comply with all ADA sidewalk ramp requirements as determined by the Engineer. Failure to satisfy these requirements shall result in corrective work at no expense to the Department.
- 3.9 Transverse Joints.** All transverse joints shall be clean and straight. At the start of each day(s) of production and at approaches, place a 5ft minimum width of paper/plastic on the existing pavement. Cover all bridge ends with paper/plastic to ensure no microsurfacing is placed on the bridge. Remove the paper/plastic once the microsurfacing has cured and dispose the excess material from the project site.

Place and spread all courses as continuously as possible, keeping the number of construction transverse joints to a minimum. When a construction transverse joint is necessary, the paving box must be full of material. Do not spread (drag) the remaining material, emptying the paving box. Once the end of the mat and a straight line is created, the paving box shall be lifted and the remaining material shall be removed and disposed of properly off the project limits.

#### 4. ACCEPTANCE AND VERIFICATION

- 4.1 Proportion and Spread Rate.** Maintain continuous control of the emulsified asphalt-to-dry aggregate proportion to conform to the approved mix design within a tolerance of  $\pm 2$  gal/ton. Ensure the spread rate satisfies the specified quantity of aggregate per square yard on a dry-weight basis.

The Contractor shall calculate the yield of the course being placed from the equipment computer display readings. If no request is made by the Engineer, the Contractor shall calculate the yield of the course being placed from the equipment computer display readings randomly, a minimum of 3 times a day and at the end of each day(s) of production.

The Department will base acceptance of the emulsified asphalt-to-dry aggregate proportion and the spread rate on the Engineer's summary of daily quantities. The Department will accept a day's application of microsurfacing provided the Engineer's summary indicates conformance with the requirements for proportion and spread rate.

- 4.2 Emulsified Asphalt.** Submit samples of the polymer-modified emulsion to the Division of Materials for testing at a frequency of one sample per lot.

**4.3 Mixture Gradation.** The Department will perform combined-gradation determinations on the aggregates used in the microsurfacing at a frequency of one per day of production. When the combined-gradation fails to meet the master range for the type of aggregate, the Department will apply a reduction on the invoice price of the aggregate as listed in Table 1 and Table 2. Contrary to section 804.10 the Department will impose a reduction in payment no matter the quantities used.

**4.4 Documentation.** The Contractor shall maintain a daily report including the following information:

- Aggregate used, ton (dry)
- Microsurfacing emulsion used, ton
- Bituminous Materials for Tack Coat, ton
- Cement used, ton
- Water used in mixture, gallons
- Additive used in mixture, gallons
- Moisture Content
- Yield, dry aggregate lb/yd<sup>2</sup>
- Square yards placed
- Rate of Application

**4.5 Test Strip Construction.** Prior to production application, the Contractor shall place a test section 1,000 ft. in length and one lane wide. The test strip shall demonstrate the mix and set time of the material and the ability to perform under traffic. If handwork will be required on the project, include handwork in the test strip. The test strip shall be placed at the same general time of day as paving is to take place (night or day), and under similar ambient conditions. The test strip shall be able to carry normal traffic within 60 minutes. If normal traffic cannot be carried, the emulsion or mixture must be adjusted and another test strip will be required. Upon approval of the test strip, the Contractor can begin application. Payment will only be made for the first test strip.

## 5. MEASUREMENT

The Department will measure surface and leveling microsurfacing courses by the number of square yards completed and accepted in place. The Department will measure microsurfacing rut-fill course by the number of tons of dry aggregate used, completed, and accepted in place. The weight of the dry aggregate used will be based on the calibrated weight of aggregate provided by the paving machine.

The Department will base the width of the pavement course on the width shown on the plans or as directed by the Engineer. The Department will measure the length along the centerline of each roadway or ramp.

The Department will not measure the surface preparation for payment and will consider it incidental to the microsurfacing.

The Department will not measure asphalt material for tack for payment and will consider it incidental to microsurfacing.

**6. PAYMENT**

The Department will consider the unit bid price per square yard to include all labor, materials, and equipment necessary to complete the work. The Department will make payment for the completed and accepted quantities according to the following:

<b>Emulsified Asphalt Price Adjustment Schedule</b>						
Test	Specification	100% Pay	90% Pay	80% Pay	50% Pay	0% Pay
CQS-1hP/CQS-1hL						
Viscosity, 77 ° F (SFS) AASHTO T 59	20 - 100	18 - 110	15 - 17 111 - 120	12 - 14 121 - 130	9 - 11 131 - 140	≤8 ≥ 141
Residue Penetration, 77 ° F AASHTO T 59	40 - 90	37 - 98	34 - 36 99 - 108	31 - 33 109 - 120	28 - 30 121 - 130	≤ 27 ≥ 131
Softening Point, AASHTO T 53	≥ 135	≥ 130	127 - 134	128 - 129	126 - 127	≤ 125
Distillation Residue, % AASHTO T 59, 350°F	≥ 62.0	≥ 60.0	59.5	59.0	58.5	≤ 58.4
Sieve, % AASHTO T 59	≤ 0.1	≤ 0.3	0.31 - 0.45	0.46 - 0.60	0.61 - 0.75	≥ 0.76
Residue Elastic Recovery @ 50 ° F, % AASHTO T 301	≥ 60.0	≥ 58.0	57.0	56.0	55.0	≤ 54.9
Residue Ductility @ 77 ° F, cm	≥ 40	≥ 38	37	36	35	≥ 34

**TABLE 1**

<b>GRADATION - MICROSURFACING TYPE II SAND</b>								
Payment Reduction	Sieve Size-Percent Passing							
	3/8	No. 4	No. 8	No. 16	No. 30	No. 50	No. 100	No. 200
0%	100	90-100	60-90	40-70	25-50	15-30	10-21	5-15
10%			58-59	38-39	23-24	13-14	8-9	4
10%	98-100	88-89	91-92	71-72	51-52	31-32	22-23	16
20%			57	37	22	12	7	3
20%	97	87	93	73	53	33	24	17
30%			56	36	21	11	6	2
30%	96	86	94	74	54	34	25	18
50%			55	35	20	10	5	1
50%	95	85	95	75	55	35	26	19

**TABLE 2**

GRADATION - MICROSURFACING TYPE III SAND								
Payment Reduction	Sieve Size-Percent Passing							
	3/8	No. 4	No. 8	No. 16	No. 30	No. 50	No. 100	No. 200
0%	100	70-100	45-70	28-50	19-34	12-25	7-18	5-15
10%			43-44	26-27	17-18	10-11	5-6	4
10%	98-100	68-69	71-72	51-52	35-36	26-27	19-20	16
20%			42	25	16	9	4	3
20%	97	67	73	53	37	28	21	17
30%			41	24	15	8	3	2
30%	96	66	74	54	36	29	22	18
50%			40	23	14	7	2	1
50%	95	65	75	55	35	30	23	19

If the Department determines that the minimum rate of application has not been obtained for each day of production, then the Department will reduce the bid payment as according to Tables 3, 4, and 5 listed below.

**Table 3**

Payment Based on Rate of Application for 18 lb/yd <sup>2</sup>	
Rate of Application of Per Day of Production (lb/sy)	Reduction of Payment (%)
18 and Greater	100
17.9 - 17.5	95
17.4 - 17.0	90
16.9 - 16.5	80
16.4 - 16.0	70
15.9 and Below	50

**Table 4**

Payment Based on Rate of Application for 14 lb/yd <sup>2</sup>	
Rate of Application of Per Day of Production (lb/sy)	Reduction of Payment (%)
14 and Greater	100
13.9 - 13.5	95
13.4 - 13.0	90
12.9 - 12.5	80
12.4 - 12.0	70
11.9 and Below	50

**Table 5**

Payment Based on Rate of Application for 24 lb/yd <sup>2</sup>	
Rate of Application of Per Day of Production (lb/sy)	Reduction of Payment (%)
24 and Greater	100
23.9 - 23.5	95
23.4 - 23.0	90
22.9 - 22.5	80
22.4 - 22.0	70
21.9 and Below	50

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
20814EC	Microsurfacing-Surface Course - Type A (Modified)	Square Yard
20814EC	Microsurfacing-Surface Course - Type A	Square Yard
24957EC	Microsurfacing-Surface Course - Type B	Square Yard
24958EC	Microsurfacing-Surface Course - Type D	Square Yard
21652EN	Microsurfacing-Leveling Course	Square Yard
24515EC	Microsurfacing-Rut Fill Course	Ton

**CLASS A+ (MODIFIED) POLISH-RESISTANT SOURCES****12/22/2025**

Aggregates on this list shall meet all requirements of Class A aggregates and meet the additional requirement of 40% minimum acid insoluble residue content by KM 64-625. These aggregates shall maintain consistent chemistry results during placement when compared to initial test values. Continued satisfactory performance results for both Dynamic Friction Testing and Locked-Wheel Friction Testing is required for these sources to remain on this list. See the special note for mix design approval information.

**CRUSHED GRANITE**

AGP000107	VULCAN MATERIALS PO BOX 549 ENKA, NC 28728 PHONE: 828-255-8561 DAVID CADE, SUPT. MIKE FRANKLIN, SALES	NONE
AGP000207	VULCAN MATERIALS PO BOX 905 HENDERSONVILLE, NC 28739 PHONE: 828-255-8561 RON RINKO, SUPT. MIKE FRANKLIN, SALES	NONE
AGP000307	MAYMEAD MATERIALS, INC. PO BOX 911 MOUNTAIN CITY, TN 37683 PHONE: 423-571-7159 SEAN MACKEY	NONE
AGP000607	HARRISON CONSTRUCTION @ WAYNESVILLE 1950 ALLENS CREEK ROAD WAYNESVILLE, NC 28785 PHONE: 828-524-5455 GENE FARMER	NONE

**SANDSTONE**

AGP012301                    MOUNTAIN AGGREGATES @ ELKHORN CITY  
2373 HIGHWAY 1975                    HIGH INSOLUBLE LEDGES ONLY  
ELKHORN CITY, KY 41522  
PHONE: 859-333-0981 TJ BELVILLE

AGP029901                    HASTIE MINING                    SANDSTONE BENCH  
RR 1 BOX 55  
CAVE IN ROCK, IL 62919

**CRUSHED QUARTZITE**

AGP001004                    MARTIN MARIETTA @ ELIZABETHTON                    QUARTZITE BENCHES  
210 JUDGE BEN ALLEN ROAD  
ELIZABETHTON, TN 37643  
PHONE: 865-548-2620 BEN BECKHAM

**SILTSTONE**

AGP000111                    VULCAN MATERIALS CO.                    HIGH INSOL LEDGES ONLY  
4275 HIGHWAY 431 N.  
SPRINGFIELD, TN 37172  
PHONE: 615-384-3524 LEROY KIRKPATRICK

AGP000611                    ROGERS GROUP, INC.                    NONE  
4450 SOUTH PARK HOUSE ROAD  
CROSS PLAINS, TN 37049  
PHONE: 615-654-9942 JOHN TURNER

AGP000711                      VULCAN MATERIALS CO.                      BENCHES D AND E  
CLARKSVILLE QUARRY  
7 QUARRY ROAD  
CLARKSVILLE, TN 37042  
PHONE: 931-645-4523 DANNY SISK

AGP000811                      VULCAN @ DICKSON, TN                      BENCH B AND C  
1150 N HUMMINGBIRD LN  
DICKSON, TN 37055  
PHONE: 615-887-1019 GREG NORWOOD

AGP004401                      HAYDON MATERIALS, LLC @ GREENSBURG                      BENCH C  
2410 COLUMBIA HIGHWAY  
GREENSBURG, KY 42743  
PHONE: 270-405-6175 BRAD CORBIN

AGP025301                      WINN MATERIALS, LLC                      BENCH F HIGH INSOL  
800 BARGE PT RD  
CLARKSVILLE, TN 37042  
PHONE: 931-320-2751 BEN WALKER  
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**CRUSHED GRAVEL**

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## SPECIAL NOTE FOR NO.4 ASPHALT MIX (THINLAY) with MODIFIED A AGGREGATE

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### 1. DESCRIPTION

Unless otherwise noted, Section references herein are to the Department's Standard Specifications for Road and Bridge Construction, current edition. All applicable portions of the Department's Standard Specifications apply unless specifically modified herein.

### 2. MATERIALS AND EQUIPMENT

#### 2.1 Asphalt Mixture.

Contrary to Section 402 of the Standards and Specifications, Warm Mix Asphalt (WMA) will not be permitted for all 4.75mm asphalt mixtures.

Contrary to Section 403.03.01 the NO 4 surface mixtures, do not place the mixture between September 30 and May 1 unless requested in writing and approved by the engineer.

**2.2 Aggregate.** Provide 100-percent crushed aggregate conforming to Sections 804 and 805. Contrary to Subsection 403.03.03, provide polish-resistant aggregate in the asphalt mixture conforming to the following requirements:

#### NO.4A (Modified) Asphalt Mix

- An aggregate blend of 50 percent aggregate that meets all of the Class A (Modified) aggregate criteria and 50 percent Class A polish-resistant aggregate.

#### Class A (Modified) Aggregate Criteria

- A minimum of 40% acid insolubility (KM 64-265)
- Approval of materials division

#### NO.4A Asphalt Mix

- 100 percent of total combined aggregate is Class A polish-resistant aggregate.

#### NO.4B Asphalt Mix

- 100 percent of total combined aggregate is Class B or Class A polish-resistant aggregate.

#### NO.4D Asphalt Mix

- Contrary to Section 409.03.03 of the Standards and Specifications, for NO.4 asphalt mixtures requiring Class D polish-resistant aggregate, recycled asphalt pavement (RAP) shall not exceed 15% of cold feed percentage, and the use of recycled asphalt shingles (RAS) is prohibited.

### 3. MEASUREMENT

The Department will not measure the surface preparation for payment and will consider it incidental to the NO.4 asphalt mix bid item.

### 4. PAYMENT

The Department will consider the unit bid price per ton to include all labor, materials, and equipment necessary to complete the work.

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
25005EC	CL4 ASPH SURF NO.4A PG76-22	TON
25005EC	CL4 ASPH SURF NO.4A PG76-22 (MODIFIED)	TON
25077EC	CL4 ASPH SURF NO.4A PG64-22	TON
25077EC	CL4 ASPH SURF NO.4A PG64-22 (MODIFIED)	TON
25020EC	CL3 ASPH SURF NO.4A PG76-22	TON
25020EC	CL3 ASPH SURF NO.4A PG76-22 (MODIFIED)	TON
24887EC	CL3 ASPH SURF NO.4A PG64-22	TON
24887EC	CL3 ASPH SURF NO.4A PG64-22 (MODIFIED)	TON
24988EC	CL4 ASPH SURF NO.4B PG64-22	TON
24888EC	CL2 ASPH SURF NO.4B PG64-22	TON
23307EC	CL3 ASPH SURF NO.4B PG64-22	TON
24570EC	CL3 ASPH SURF NO.4D PG64-22	TON
21653ES403	CL2 ASPH SURF NO.4D PG64-22	TON